



Tweedy, Browne Company LLC
Investment Advisers
Established in 1920

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Great 10-Year Record = Great Future, Right?

*How well did companies
with great 10-year records
as of December 31, 1990
perform in the next 7 years?
A study of the predictability
of long-term earnings
and intrinsic value growth*

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GREAT 10-YEAR RECORD = GREAT FUTURE, RIGHT?

How Well Did Companies with Great 10-Year Records as of December 31, 1990 Perform in the Next Seven Years?

A Study of the Predictability of Long-Term Earnings and Intrinsic Value Growth

Warren Buffett likes to invest in companies which have had a record of exceptionally high returns on equity. In discussing the earnings (and intrinsic value) growth prospects of a business (or of the S&P 500), Warren Buffett, Charles Munger and Bill Ruane have frequently mentioned the potential of a company to reinvest retained cash earnings in the company's operating business and earn high rates of return on this additional investment. This is the simple "savings account" concept of earnings growth in a business. If, for example, you have a savings account that earns a 5% return, your \$1,000 investment in this savings account will earn \$50. If you add, say, 10%, or \$100, to the savings account, you will earn 10% more money, or \$5.00, on the incremental \$100 investment in the account. Your implied growth rate on the savings account is the percentage addition to the savings account (10% in this example) which earns the same return as the existing account (5% in this example).

Similarly, the implied earnings growth rate for a business that earns 20% on its equity, pays out 20% of its earnings to shareholders as a dividend, and reinvests 80% of earnings in the business, is 16% (i.e., 80% of the 20% return that is earned on equity, or an amount equal to 16% of equity, is added to equity to earn the same 20% return that the "old equity" earned, so earnings increase by 16%).

A high average return on equity over a long stretch of time, such as ten years, conveys information about the nature of a business and suggests that the business enjoys some kind of competitive advantage, often from lower costs, uniqueness, or differentiation, that has enabled the business to sustain high returns. This study addresses whether or not an excellent corporate track record, as measured by a high average return on equity over the last ten years, tends to predict excellent corporate results in the future. In other words, to what extent have good historical corporate results been sustainable, on average? As a corollary, has the competitive advantage, uniqueness/differentiation that permitted high returns in the past been sustainable, on average? Should we, as investment analysts, rely upon good 10-year earnings' records in making an educated "best guess" about the future, or have the past financial records of most businesses been so unrelated to future results that we should largely ignore the financial record, or treat it with a grain of salt? Does above-average historical earnings growth predict future earnings growth, on average? In making an educated guess about future financial results, should we weight the most recent year's results more heavily than the average results of the last 10 years? Are the kinds of businesses that Warren Buffett favors — companies with high returns on equity whose earnings can grow at a rate of 15%+/year over a long period of time — the exception rather than the rule?

In this study, all industrial and financial companies in the Compustat database (utilities were excluded) with market capitalizations of at least \$100 million on December 31, 1990 were ranked on average return on equity over the prior 10-year 1980–1990 period and sorted into ten equal-number groups, or deciles. The universe of companies with market capitalizations of at least \$100 million on 12/31/90 that also had 10-year financial records was comprised of 740 companies. This study examines the 74 companies with the highest average return on equity over the prior 10-year 12/31/80–12/31/90 period. Of the 71 companies that made the cut as of 12/31/90, 17 companies were acquired/merged prior to 12/31/97. Therefore, 54 of the 71 companies that were selected as of 12/31/90 could be examined over the subsequent 12/31/90–12/31/97 seven-year period. One company, Holly Corp., was an outlier with a return on equity of 7,520% in 1990. Holly Corporation, an extreme outlier, was excluded from the study. Two companies, Circuit Cities Stores and Ralston Purina, both appeared twice in the data output (perhaps both companies had two classes of shares?). The duplicate data for both companies was excluded from the study. Consequently, the high return on equity universe, as of 12/31/90, was comprised of 71 companies (74 companies in the top decile of companies ranked on 10-year average return on equity, less three companies that were excluded). Schedule I, II and III show financial information and growth rates for each of the companies in the study. Detailed annual historical balance sheet and income statement information is available for each company in our COMPUSTAT PC Plus database.

Before:

The 71 high R.O.E. companies had an average return on equity of 28.9% over the 10-year 12/31/80–12/31/90 period. In the 12/31/90 fiscal year, their average return on equity was 40%. The 71 companies had an average compounded e.p.s. growth rate of 18.8% over the 1980–1990 10-year period. Only two of the 71 companies had lower e.p.s. in 1990 than in 1980.

Of the 71 high R.O.E. companies, the 54 companies that were still public companies in 1997 had an average return on equity over the 1980–1990 10-year period of 29.1%. The 1990 average return on equity for these 54 companies was 41.9%. These companies had enjoyed an average e.p.s. growth rate over the 10-year 1980–1990 period of 18.5%. Only two of the 54 companies had lower e.p.s. in 1990 than 1980.

After:

Over the next seven years (from 1990 to 1997), despite an increasing equity base from retained earnings, 18 of the 54 companies, or 33% of the companies, reported lower e.p.s. in 1997 than in 1990. Fourteen of the 36 companies (26% of the companies) that had produced increased e.p.s. over the seven years ended December 31, 1997 had e.p.s. growth rates of about 7% or less. Another 12 companies (22% of the companies) had e.p.s. growth rates that ranged from 8.4% to 14.7%. Only 10 (19% of the companies) of the 54 companies had e.p.s. growth of at least 15%.

The average e.p.s. growth rate for the ten 15%+ growers was 21.2% over the seven-year 1990–1997 period. 1997 e.p.s. for Lockheed Martin Corp. was not available in the database.

A similar pattern of declining growth rates or diminishment of corporate value was apparent when growth was measured by the compounded rate of change in per share “intrinsic value”. Intrinsic value for industrial companies was defined as 10x EBIT (i.e., earnings before deducting interest and taxes), plus cash, less interest bearing debt and preferred stock, divided by outstanding shares. In recent years, we have observed many corporate acquisitions of companies at a valuation equal to about 10x EBIT. An acquisition valuation of 10x EBIT provides an acquirer with a 10% pre-tax return on the total purchase price including any assumption or pay-down of the acquired company’s debt. For financial companies, the change in intrinsic value was assumed to be the change in e.p.s.

Over the seven year, 1990–1997 period, despite an increasing equity base from retained earnings, and despite seven years of cash generation, intrinsic value was lower in 1997 than in 1990 for 15 of the 54 companies, or 28% of the companies. 17 of the 54 companies (31% of the companies) increased intrinsic value at up to a 7% rate. Thirteen companies (26% of the companies) increased intrinsic value at rates between 7%–14.2%. Only eight companies (or 15% of the companies) were able to increase intrinsic value at a rate of 15% or more over the seven-year 1990–1997 period. The growth rate of intrinsic value for Dun & Bradstreet could not be calculated because of spinoffs.

Between 1990 and 1997, return on equity declined for 34 companies, or 63% of the 54 companies. A comparison of each company’s “implied growth rate” (defined as return on equity in 1990 times the percentage of earnings that was retained in the company and not paid out as a dividend) to the actual growth rate in intrinsic value or e.p.s. over the subsequent seven-year 1990–1997 period indicates that the implied growth rate did not predict future growth. (See Schedule II.)

Whatever competitive advantage that had enabled these companies, as a group, to produce superior financial results in the 1980–1990 ten-year period could not be sustained, on average, over the next seven years. Past financial results were not able to predict future financial results. Companies that were able to increase e.p.s. or intrinsic value at 15%+ rates over the next seven years were the exception rather than the rule.

One-at-a-Time Examination of the 1980–1990 Financial Record of each of the 54 Companies, and an Analyst’s “Best Guess” Estimate of each Company’s Future Growth over the subsequent Seven-Year, 1990–1997 Period

As an experiment, the author of this study thought that it would be interesting to examine the 1980–1990 financial record of each of the 54 companies, and then, relying only upon this historical financial information, make a guesstimate of the future growth rate of sales and unleveraged intrinsic value (10x EBIT value) for each company over the next seven years (1990–1997). Perhaps examination of the whole set of historical financial information would allow accurate predictions to be made?

The examination of each company included the information shown in Appendix A (using Walmart as an example): (1) historical 10-year 1980–1990 income statement, (2) year-to-year 1987–1990 percent change schedule for the balance sheet, and (3) year-to-year 1987–1990 percent change schedule for the income statement. The examination also included observation of the historical information displayed in Schedule I: (a) 1980–1990 10-year average R.O.E., (b) 1980–1990 10-year e.p.s. growth rate, (c) 1980–1990 10x EBIT value growth rate, and (d) the implied growth rate (based on the 1990 return on equity and earnings retention rate) displayed in Schedule II.

In making a “best guess” estimate of the future growth rate for sales and unleveraged intrinsic value (10x EBIT value), the author used several judgmental rules of thumb. The most important overall rule of thumb was to emphasize the recent past, primarily the 1990 financial information, in forecasting the future. Schedule IV shows the 1990 versus 1989 percentage change in sales, inventory, net property, plant and equipment and accounts payable for each of the 54 companies; a description of the stability of annual profit margins as a percentage of sales over the 1980–1990 period, and a “best guess” estimate of the annual growth rate for EBIT over the next seven years (1990–1997). In making a “best guess” about the future, the author assumed that if a company had enjoyed stable profit margins over the past 10 years, then margins would continue to be at the same level in the future. If you assume that margins are the same in the future as in the past, then the future growth rate in EBIT will of course be identical to the future growth rate in sales.

The estimated future growth rate for sales and EBIT over the next seven years was usually assumed to be about equal to the percentage change in sales that occurred in 1990. However, when the 1990 percentage increase in inventories, net property, plant and equipment and accounts payable significantly exceeded the 1990 percentage increases in sales, it was assumed, in several instances, that future sales and EBIT increases would be somewhat higher than the particular company’s 1990 sales increase. For example, in 1990, Blair Corporation’s sales were up 11% and net property, plant and equipment was up 64%. The 64% increase in net property, plant and equipment implied that Blair Corporation expected significant future increases in sales from this new production capacity. Consequently, the best guess estimate of future growth in EBIT was “bumped up” a little from the percentage change in sales in 1990, 11%, to a best guess growth rate of 11%–15%.

In Schedule IV, the author's "best guess" estimated growth rate for sales and EBIT over the next seven-year 1990–1997 period can be compared to the actual growth rate in intrinsic value (10x EBIT value) and e.p.s. that occurred over the 1990–1997 period. The author's best guess about future growth, which was based solely upon examination and extrapolation of historical financial information (and without any qualitative information), was an extremely inaccurate predictor of the actual growth that subsequently occurred over the seven-year 1990–1997 period.

Other Studies of Growth

Two studies of growth were described in a February 2, 1998 *Fortune* magazine article, *The Half-Life of Growth* by Amy Kover. The first study was prepared by the firms, BARRA, RDF Associates and Mellon Capital Management.

Looking at a universe of roughly 1,000 large-cap equities, they defined growth companies as those in the top P/E quintile of their industry. The year after they qualified for the growth ranking, the companies collectively boosted their earnings 8.6 percentage points higher than those in the middle quintile. However, the growth stocks' earnings advantage declined with each year, and by eight years out, it had sunk to a negligible 0.9 point.

The second study in Ms. Kover's *Fortune* magazine article was conducted by Sanford C. Bernstein Co. The study covered growth stocks in each of the past 20 years. To qualify, a corporation had to rank in the top third of its peers in sales growth, profit retention, and price in relation to sales, earnings and book value.

That's an exclusive company to be part of, but it proved to be an even tougher company to keep. The researchers found that only 51% of the companies still qualified as growth companies after five years. After ten years, only 20% still made the cut, and after 15 years, only 10% did.

Another study, *Returns to Contrarian Investment Strategies: Tests of Naive Expectations Hypotheses* by Patricia M. Dechow and Richard G. Sloan (*Journal of Financial Economics* 43 (1997)) compares past growth rates of sales per share and earnings per share to actual subsequent growth rates for sales per share and earnings per share. This study also compares analysts' forecasts of five-year earnings per share growth rates to the actual rate of e.p.s. growth attained over the five years subsequent to the date of the forecast.

The study of past and future sales per share and earnings per share growth used a sample that consisted of 57,412 firm-years for firms traded on the NYSE or AMEX and covered by COMPUSTAT between 1967 and 1991. The study of analysts' five-year forecasts of e.p.s. growth rates used a sample consisting of 23,203 firm-years between 1981 and 1992 for firms that had analysts' forecasts of five-year e.p.s. growth available on I/B/E/S, were traded on the NYSE, ASE or NASDAQ, and were covered by COMPUSTAT.

In the studies of past and future sales per share and earnings per share growth rates, the sample companies were ranked on sales per share and earnings per share growth rates over the past five years and sorted into ten equal number groups, or deciles. The subsequent actual growth rate for sales per share and earnings per share over the next five years was measured for the companies in each decile. Tables A and B show the study results for sales per share and earnings per share, respectively.

The study results in Table A indicate, essentially, that growth in sales per share over the past five years was not a predictor of growth in sales per share over the next five years. Companies' future sales per share growth moved toward the average rate of growth for all companies in the study.

The results in Table B indicate that the growth rate of earnings per share over the past five years did not predict the earnings per share growth rate over the next five years. With the exception of the companies in deciles 1 and 2, which had experienced declining earnings per share over the past five years, earnings per share growth rates over the next five years moved toward the average rate of growth for all companies in the study. The previously underperforming companies in deciles 1 and 2 had above average increases in earnings per share over the next five years.

In the study of analysts' forecasts of five-year e.p.s. growth as compared to actual e.p.s. growth over the next five years, the sample companies were ranked on analysts' five-year forecasted e.p.s. growth rate, and sorted into deciles. The actual growth rate for e.p.s. over the five years subsequent to the date of the forecast was measured for the companies in each decile. The results of this study are shown in Table C.

The results in Table C indicate that investment analysts have been unable to predict the actual growth rate of earnings per share over the next five years. The analysts' five-year earnings per share forecasts, on average, were significantly above the actual rate of e.p.s. growth that occurred over the next five years. The most optimistic five-year e.p.s. growth rate forecasts were also the most inaccurate, as measured by the difference between the predicted growth rate and the actual growth rate that subsequently occurred. Predicted five-year e.p.s. growth, 36.2%, was 22.8 percentage points greater than the growth rate that actually occurred, 13.4%. There was, however, some correlation between analysts' five-year e.p.s. forecasts and the classification of future e.p.s. growth. The companies that analysts had predicted would increase e.p.s. at a 36.2% compounded rate over the next five years were companies that subsequently increased actual e.p.s. at the highest rate, 13.8%, among all of the companies over the next five years. Analysts were also able to accurately classify the companies with the slowest growth in e.p.s. over the next five years. The slowest growers were predicted to have an e.p.s. growth rate of 4.1%. These companies had the lowest actual five-year e.p.s. growth rate, -0.9%, among all of the companies.

Table A:**Does Past Sales Per Share Growth Predict Future Sales Per Share Growth?
Companies Ranked on Past Sales Per Share Growth Rates, 1967–1991**

	Low 1	2	3	4	5	6	7	8	9	High 10
Growth Rate of Sales per share over the past 5 years	(18.5%)	(1.8%)	2.3%	5.0%	7.1%	9.0%	11.1%	13.6%	17.7%	31.7%
Actual Growth Rate of Sales per share over the next 5 years	5.7	5.2	5.4	5.5	6.3	6.9	7.4	7.8	8.9	7.7

Table B:**Does Past E.P.S. Growth Predict Future E.P.S. Growth?
Companies Ranked on Past E.P.S. Growth Rates, 1967–1991**

	Low 1	2	3	4	5	6	7	8	9	High 10
Growth Rate of Earnings per share over the past 5 years	(38.4%)	(7.4%)	(0.1%)	4.4%	7.8%	10.9%	14.3%	18.5%	25.0%	51.1%
Actual Growth Rate of Earnings per share over the next 5 years	23.1	9.2	6.3	5.7	4.9	5.5	5.9	7.0	6.2	5.3

Table C:**Can Analysts Predict E.P.S. Growth Over the Next 5 Years?
Companies Ranked on Analysts' Consensus Estimate of E.P.S. Growth Rate
over the Next Five Years, 1981–1992**

	Low 1	2	3	4	5	6	7	8	9	High 10
Analysts' Consensus Estimate of Earnings per share Growth Rate over the next 5 years	4.1%	8.3%	10.1%	11.6%	12.9%	14.8%	16.2%	19.3%	23.3%	36.2%
Actual Growth Rate of Earnings per share over the next 5 years	(0.9)	5.2	5.9	6.0	6.3	6.2	7.8	6.7	8.0	13.4

Random Growth?

In another study of the relationship between past profitability and future earnings growth, we selected a universe comprised of all companies, excluding utilities, that met the following criteria: (1) market capitalization on December 31, 1990 of at least \$100 million, (2) a return on equity in 1990 of at least 12%, and (3) 17 years of financial history (from December 31, 1980 to December 31, 1997). We ranked this universe of companies on earnings per share growth over the 12/31/90–12/31/97 seven-year period, and sorted the companies into ten equal-number groups, or deciles. The universe consisted of a total of 536 companies, and each decile of seven-year e.p.s. growth was comprised of 54 companies. Next, we ranked all 536 stocks in the universe on average return on equity over the preceding historical ten-year 1980–1990 period, and sorted the stocks into five equal-number groups, or quintiles. We wanted to see if there was a relationship between a company's seven-year earnings growth and its past record of profitability, as measured by average return on equity over the preceding ten years. We had been unable to observe any relationship between past profitability and future e.p.s. growth for companies with extremely high average profitability. We wanted to see if there was any correlation between past profitability and future earnings growth among all companies, not just the companies with the highest historical level of profitability.

The reason for excluding all companies with less than a 12% initial return on equity in 1990 was to eliminate “turnaround” outliers; i.e., companies with extremely high e.p.s. growth that occurred because of a cyclical turnaround-type increase in earnings from a depressed, below-average level to a more normal recovery level of profitability. (For example, a company that earned \$.01/share on stockholders equity of \$10.00/share, a sub-normal .10% return on equity, would have an 11,900% e.p.s. increase if e.p.s. merely recovered to a more normal 12% return on equity, or \$1.20 per share.)

The following Table D shows the range of compounded growth rates over the seven-year 1990–1997 period for the companies in each decile, and the percentage of companies in each decile of December 31, 1990–December 31, 1997 seven-year e.p.s. growth that were from each quintile of December 31, 1980–December 31, 1990 10-year average return on equity. (For example, if a company's compounded e.p.s. growth rate over the 12/31/90–12/31/97 seven-year period was 20%, and its historical average return on equity over the 10-year 12/31/80–12/31/90 period was 13%, it would fall into decile 10 and quintile 2.)

Table D:**The Relation between Future Seven-Year E.P.S. Growth and Past 10-Year Average Return on Equity:**

*Companies ranked on 12/31/90–12/31/97 seven-year E.P.S. Growth Rate and sorted into Deciles
The same companies were ranked on their prior 12/31/80–12/31/90 10-Year Average Return on Equity and sorted into Quintiles*

Decile:	Low 1	2	3	4	5	6	7	8	9	High 10	
Future:											
Range of 7-Year 12/30/90–12/31/97 Compounded Annual E.P.S. Growth Rates for the 54 Companies in each Decile	Decline	Decline	Decline	.83% to .83%	4.3% to 4.3%	6.9% to 6.9%	9.3% to 9.3%	11.0% to 11.0%	13.4% to 13.4%	17.4% to 17.4%	40.3%
Past:											
Percentage of Companies in each Decile according to each Company's Prior 12/31/80–12/31/90 10-Year Average Return on Equity (ROE)											
Low Quintile 1: 10-Year Average ROE from minus up to 12%	22%	21%	15%	23%	16%	25%	11%	24%	17%	26%	
Quintile 2: 10-Year Average ROE from 12% to 15%	15	19	24	17	24	15	37	21	18	9	
Quintile 3: 10-Year Average ROE from 15% up to 18%	24	13	22	15	19	25	28	21	17	17	
Quintile 4: 10-Year Average ROE from 18% to 22%	15	15	19	26	19	26	13	21	26	20	
High Quintile 5: 10-Year Average ROE from 22% to 756% (an extreme outlier)	24	32	20	19	22	9	11	13	22	28	
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	

The above Table D indicates a fairly random pattern of future e.p.s. growth in relation to past profitability across all of the companies in the study. Of the 54 companies in decile 10—the highest decile of future seven-year, 12/31/90–12/31/97 e.p.s. growth, 14 companies, or 26% of the total, had average profitability that ranked in the bottom fifth of all companies over the past 10-year, 12/31/80–12/31/90 period. These seven-year e.p.s. growth “winners” in the 12/31/90–12/31/97 period had been poorly performing “losers” in the 12/31/80–12/31/90 ten-year period. Only 28% of the seven-year e.p.s. growth “winners” in decile 10 were ranked in the top fifth of past average profitability over the preceding ten years.

Similarly, in decile 1, which contained the companies that had the worst e.p.s. growth records over the seven-year 12/31/90–12/31/97 period, 24% of the companies had ranked in the top-fifth of average profitability over the preceding 12/31/80–12/31/90 10-year period. These “winners” over the 12/31/80–12/31/90 period became “losers” in the subsequent 12/31/90–12/31/97 period. Deciles 8 through 9 also appear random.

Does Past Profitability Predict Future Investment Returns?

We also ranked the same universe of stocks that were examined in the preceding study on stock price increase over the seven-year period from 12/31/90 to 12/31/97, and sorted the companies into deciles. Then, as in the preceding study, we examined the profitability of each stock in each decile as measured by average return on equity over the prior 10-year, 12/31/80–12/31/90 period.

Table E shows the results of this study.

Table E

The Relation between Future Seven-Year Stock Price Increase and Past 10-Year Average Return on Equity:

*Companies ranked on 12/31/90–12/31/97 seven-year Stock Price Increase and sorted into Deciles
The same companies were ranked on their prior 12/31/80–12/31/90 10-Year Average Return on Equity and sorted into Quintiles*

Decile:	Low 1	2	3	4	5	6	7	8	9	High 10
Future:										
Range of 7-Year 12/30/90– 12/31/97 Stock Price Increase for the Companies in Each Decile	Decline to +18%	18% to 63%	63% to 104%	104% to 141%	141% to 173%	173% to 225%	225% to 290%	290% to 391%	391% to 590%	590% to 22,677%
Past:										
Percentage of Companies in each Decile according to each Company's Prior 12/31/80–12/31/90 10-Year Average Return on Equity (ROE)										
Low Quintile 1: 10-Year Average ROE from minus up to 12%	13%	12%	19%	23%	12%	10%	29%	25%	25%	33%
Quintile 2: 10-Year Average ROE from 12% to 15%	17	19	14	17	16	33	19	25	19	21
Quintile 3: 10-Year Average ROE from 15% up to 18%	16	19	23	23	27	23	13	14	27	13
Quintile 4: 10-Year Average ROE from 18% to 22%	19	27	23	17	23	17	25	21	15	12
High Quintile 5: 10-Year Average ROE from 22% to 756% (an extreme outlier)	35	23	21	20	22	17	14	15	14	21
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

The above Table E suggests that there has been no correlation between past profitability, as measured by the 10-year average return on equity over the 12/31/80 and 12/31/90 period, and future investment gains over the subsequent 12/31/90 to 12/31/97 seven-year period. Good companies, as measured by top-fifth 10-year average return on equity, were not necessarily good stocks, in terms of future investment returns, and “bad companies”, as measured by bottom-fifth 10-year average return on equity, were not necessarily bad stocks. One-third of the companies in the decile with the largest investment gains (decile 10) were “bad companies”. Similarly, 35% of the stocks

with the worst investment returns over the seven-year 12/31/90–12/31/97 period (decile 1) were “good companies” with top-fifth average return on equity over the preceding 10-year 12/31/80–12/31/90 period.

Thoughts/Observations:

The easy-to-calculate Implied Growth Rate (i.e., return on equity times the percentage of earnings that is reinvested in the business and not paid out to stockholders as a dividend) did not predict future earnings growth, on average, for companies that had been highly profitable over the last ten years. Return on equity for these companies, as a group, tended to decline over the next seven years. Financial pasts were not related to financial futures for the companies as a group.

Similarly, companies that experienced the highest growth in e.p.s. over the 12/31/90–12/31/97 seven-year period had prior 10-year average profitability, as measured by average return on equity, that ranged all over the map. The pattern looked random to us. The financial future, as measured by seven year e.p.s. growth, was unrelated to the financial past. Many companies with poor return on equity track records perked up and produced significant earnings increases, and many companies with excellent return on equity track records stumbled and experienced a large decline in earnings.

The previously described study by Patricia Dechow and Richard Sloan suggests that when the average company experiences a growth spurt in sales per share over a five-year period, the growth in sales per share over the next five years will tend to revert to about the mean average for most companies. Similarly, the Dechow and Sloan study suggests that the average company that has had five years of exceptional earnings per share growth will tend to have e.p.s. growth over the next five years that is about equal to the average for all companies.

The drivers of growth in intrinsic value (as measured by 10x EBIT (i.e., earnings before deducting interest and taxes), plus cash, minus debt and preferred stock, divided by shares outstanding) are growth in EBIT and cash generation (that results in an increase in cash or a decrease in debt). Aside from increases in EBIT that can be generated by price increases or cost cuts, which are often one-time turnaround type changes, the engine that drives EBIT growth over the long term is sales growth. And more sales generally require more operating assets such as inventory and property, plant and equipment. A company that experiences significant growth in unleveraged intrinsic value of, say, 18% per year, over a long period of time, such as 10–20 years, has to have a high return on the capital that is being reinvested in the business to support the 18% growth rate. Just look at Walmart’s or Coca-Cola’s long-term record as examples of sustained high returns on equity and high reinvestment in the business. Companies that grow a lot over a long, long period of time, *have* to have sufficient opportunities to reinvest earnings at high rates of return in order to generate more sales and earnings. The math is easy.

The hard part is unearthing, sifting, weighing and assessing the qualitative information that drives financial numbers. Isn't it a paradox that most of what is written about investment analysis in textbooks and journals is about quantitative information, and so little is written about digging up and analyzing the qualitative information that ultimately drives the financial numbers? Customers drive sales, sales drive profits and, ultimately, a company's competitive standing, or advantage, its "franchise", determines the sustainability of sales and profits. If long-term growth can be predicted at all, it would appear that the prediction must rely upon insights relating to qualitative information that has been used to assess the sustainability of a competitive edge. When Warren Buffett is considering an investment, he doesn't just study the company that he is considering. He studies the company's competitors as well. Historical financial numbers alone do not predict growth. If financial numbers alone predicted future growth, then, as Warren Buffett has said, all librarians would be rich.

In recent years, Warren Buffett has said that you shouldn't consider buying an interest in a business unless you are willing to own it for at least ten years. He and Charles Munger have also mentioned that the futures (and future growth) of very, very few businesses are predictable with *certainty*. As a corollary, they believe that the competitive landscape in ten years can only be predicted with certainty for a few businesses. They like a business that they can "understand", and they don't like a lot of change in a business. Warren Buffett and Charles Munger classify Coca-Cola as an "inevitable" that they believe is certain to grow. As a corollary, they must believe that Pepsi Cola, Cott, Virgin Cola and other competitors' future actions and responses over the next ten years will not impair Coca-Cola's future profitability or dent its 15%+ growth prospects, and that customers' choices among many competing beverages will continue to favor Coca-Cola's offerings. Similarly, in emphasizing the rareness of businesses that are "certain" to grow at 15%+ rates over a long period of time, Warren Buffett and Charles Munger describe having an opportunity ticket that may only be punched ten or fewer times in a lifetime. Because there are so few businesses that are certain to grow at high rates that are also available at an attractive price, Warren Buffett and Charles Munger believe that you should load up and concentrate your portfolio on that "opportunity of a lifetime" when you find it. How many businesses are you certain about ten years from now?

SCHEDULE I

Past (1980–1990) and Actual Future (1990–1997) Growth Rates of Companies with High Average Returns on Equity over the Past Ten Years (1980–1990)

Company	1980–1990 10-Year Average ROE (%)	12/90 ROE (%)	1997 ROE (%)	1980–1990 10-Year EPS Growth Rate (%)	1990–1997 7-Year EPS Growth Rate (%)	1980–1990 Intrinsic Value (10x EBIT) Growth Rate (%)	1990–1997 Intrinsic Value (10x EBIT) Growth Rate (%)
Brunos Inc.	23	19	(36)	20.7	Decline	18.6	Decline
Apple Computer	28	32	(50)	41.1	Decline	40.8	Decline
Abbott Laboratories	29	36	43	17.5	13.7	17.8	11.9
Associated Comm Corp. – Cl. A	17	59	N/A	21.9	N/A	N/A	N/A
American Home Products Corp.	36	62	29	10.5	6.8	6.9	7.9
Avon Products Inc.	27	70	140	Decline	10.0	Decline	1.2
Bandag Inc.	32	37	30	17.3	9.9	14.8	2.1
Blair Corp.	26	34	06	21.3	Decline	20.0	Decline
Circuit City Stores (CC)	24	28	13	35.7	7.1	32.7	5.6
CCH Inc. – Cl. A	33	19	N/A	6.0	N/A	4.4	N/A
Circuit City Stores (CCKM.CM)	24	28	10	—	—	—	—
Chris-Craft Industries Inc.	31	30	06	41.7	Decline	46.2	12.1
Countrywide Credit Industries	20	11	19	9.6	34.2	9.6	34.2
Comdisco Inc.	25	16	16	24.3	8.4	24.0	Decline
Charming Shoppes	23	16	(02)	14.9	Decline	12.0	Decline
Continuum Inc.	21	34	N/A	14.9	N/A	13.0	N/A
Cray Research	22	19	N/A	46.2	N/A	23.4	N/A
Dow Jones & Co.	25	08	(49)	5.3	Decline	4.3	5.6
Deluxe Corp.	29	27	06	15.3	Decline	14.2	2.3
Dun & Bradstreet	26	24	(50)	11.9	Decline	9.1	—
Dreyfus Corp.	32	09	N/A	15.1	N/A	11.4	N/A
Ennis Business	28	40	17	18.6	Decline	16.6	Decline
Electronic Data Systems	30	28	15	33.0	5.1	34.0	9.6
EG&G Inc.	24	22	08	10.9	Decline	7.6	Decline
Food Lion Inc.	27	32	14	28.2	No change	26.8	0.7
Freeport McMoran Inc.	26	145	N/A	5.4	N/A	0.8	N/A
Gillette Company	96	436	31	12.5	17.9	11.5	14
Geico Corp.	24	23	N/A	18.0	N/A	N/A	N/A
Galen Health Care Inc.	24	23	N/A	17.2	N/A	12.2	N/A
General Mills Inc.	30	50	146	10.5	3.1	8.0	2.8
Holly Corp.	54	7250	14	32.0	Decline	33.1	Decline
Block H & R Inc.	23	27	04	12.4	Decline	10.5	Decline
Intl Game Technology	17	25	23	9.3	30.8	10.9	31.2
Intl Dairy Queen	45	36	N/A	26.8	N/A	23.7	N/A
Intergraph Corp.	19	10	(16)	25.7	Decline	26.5	Decline

SCHEDULE I (continued)

Company	1980–1990 10-Year Average ROE (%)	12/90 ROE (%)	1997 ROE (%)	1980–1990 10-Year EPS Growth Rate (%)	1990–1997 7-Year EPS Growth Rate (%)	1980–1990 Intrinsic Value (10x EBIT) Growth Rate (%)	1990–1997 Intrinsic Value (10x EBIT) Growth Rate (%)
Ideon Group Inc.	29	25	N/A	25.0	N/A	21.4	N/A
Harland (John H.) Co.	24	21	09	16.2	Decline	14.4	Decline
Kellogg Co.	33	31	44	13.2	3.9	12.1	5.3
Kelly Services	25	25	16	17.1	1.6	59.8	0.8
Coca-Cola Company	27	43	66	13.8	18.2	10.6	15.7
Lockheed Martin Corp.	34	16	N/A	26.5	N/A	14.5	11.0
Limited Inc.	35	36	17	32.3	6.9	58.7	4.0
Mac Frugals Barg	28	16	18	14.2	9.8	11.9	9.5
Marion Merrell Dow Inc.	30	45	N/A	40.0	N/A	37.9	N/A
Martin Marietta	25	24	N/A	11.3	N/A	12.0	N/A
Marsh & McLennan	31	34	18	10.3	2.0	14.0	6.6
Philip Morris Company Inc.	27	37	44	21.0	10.6	22.0	12.4
Merck & Co.	31	51	38	17.1	13.9	16.8	10.9
Maxam Inc.	21	56	(121)	35.3	Decline	47.6	Decline
Mylan Laboratories	35	25	10	37.4	11.7	23.1	15
New England Business Service	26	20	25	13.4	1.5	12.8	1.2
Neutrogena Corp.	35	22	N/A	25.0	N/A	24.5	N/A
Nike Inc. – Cl. B	26	43	32	32.0	18.8	28.4	19.5
Progressive Corp.	24	21	23	16.4	23.8	16.4	23.8
Ralston Purina (RACM.CM)	30	45	N/A	15.3	N/A	15.7	N/A
Ralston Purina (RAL)	30	45	46	—	0.4	—	Decline
Rollins Inc.	33	38	(56)	Decline	Decline	Decline	Decline
SEI Investments	16	29	46	18.1	15.1	14.7	13.9
Savannah Foods & Industries	23	29	18	10.2	Decline	7.5	Decline
Safety-Kleen Corp.	23	21	13	19.4	0.1	15.9	1.5
Shared Medical Systems Corp.	23	14	20	6.3	13.0	3.5	14.2
St. Jude Medical Inc.	23	34	06	46.3	Decline	33.3	1.9
Servicemaster Company	85	215	22	18.9	14.7	10.7	15.2
Syntex Corp.	32	57	N/A	18.8	N/A	18.8	N/A
Tandy Corp.	24	17	15	12.2	Decline	4.4	Decline
Tambrands Inc.	26	36	N/A	11.0	N/A	10.6	N/A
Tyson Foods Inc.	23	26	12	50.6	5.0	N/A	Decline
Unilever N V	26	64	73	16.6	15.6	12.6	3.6
UST Inc.	33	44	154	19.0	13.6	17.1	12.7
VF Corp.	23	09	17	7.7	22.1	11.2	15.9
Wd-40 Co.	42	41	45	10.8	4.4	8.9	4.4
Walmart Stores	30	36	21	37.4	15.8	36.5	12.2
Washington Post	26	19	22	19.5	8.8	18.8	5.0
Affiliated Publications	23	12	N/A	6.9	N/A	3.5	N/A

SCHEDULE II

Implied Growth Rate in 1990 Compared to Actual Future Growth Rates over the next Seven Years (1990–1997)

Company	Implied Growth Rate (1990 ROE x EPS Retention %) (%)	1990–1997 7-Year EPS Growth Rate (%)	1990–1997 Intrinsic Value (10x EBIT) Growth Rate (%)
Brunos Inc.	15	Decline	Decline
Apple Computer	(28)	Decline	Decline
Abbott Laboratories	22	13.7	11.9
Associated Comm Corp. – Cl. A	59	N/A	N/A
American Home Products Corp	28	6.8	7.9
Avon Products Inc.	43	10.0	1.2
Bandag Inc.	30	9.9	2.1
Blair Corp.	21	Decline	Decline
Circuit City Stores (CC)	27	7.1	5.6
CCH Inc. – Cl. A	07	N/A	N/A
Circuit City Stores (CCKM.CM)	27	—	—
Chris-Craft Industries Inc.	30	Decline	12.1
Countrywide Credit Industries	07	34.2	34.2
Comdisco Inc.	14	8.4	Decline
Charming Shoppes	13	Decline	Decline
Continuum Inc.	34	N/A	N/A
Cray Research	19	N/A	N/A
Dow Jones & Co.	02	Decline	5.6
Deluxe Corp.	13	Decline	2.3
Dun & Bradstreet	06	Decline	N/A
Dreyfus Corp.	06	N/A	N/A
Ennis Business	24	Decline	Decline
Electronic Data Systems	21	5.1	9.6
EG&G Inc.	15	Decline	Decline
Food Lion Inc.	24	No change	0.7
Freeport McMoran Inc.	62	N/A	N/A
Gillette Company	290	17.9	14
Geico Corp.	20	N/A	N/A
Galen Health Care Inc.	15	N/A	N/A
General Mills Inc.	26	3.1	2.8
Holly Corp.	6250	Decline	Decline
Block H & R Inc.	13	Decline	Decline
Intl Game Technology	25	30.8	31.2
Intl Dairy Queen	36	N/A	N/A
Intergraph Corp.	10	Decline	Decline

SCHEDULE II (continued)

Company	Rate (1990 ROE x EPS Retention %) (%)	7-Year EPS Growth Rate (%)	Intrinsic Value (10x EBIT) Growth Rate (%)
Ideon Group Inc.	22	N/A	N/A
Harland (John H.) Co.	10	Decline	Decline
Kellogg Co.	17	3.9	5.3
Kelly Services	18	1.6	0.8
Coca-Cola Company	26	18.2	15.7
Lockheed Martin Corp.	11	N/A	11.0
Limited Inc.	30	6.9	4.0
Mac Frugals Barg	16	9.8	9.5
Marion Merrell Dow Inc.	27	N/A	N/A
Martin Marietta	19	N/A	N/A
Marsh & McLennan	13	2.0	6.6
Philip Morris Company Inc.	22	10.6	12.4
Merck & Co.	28	13.9	10.9
Maxam Inc.	56	Decline	Decline
Mylan Laboratories	21	11.7	15
New England Business Service	08	1.5	1.2
Neurogena Corp.	15	N/A	N/A
Nike Inc. – Cl. B	38	18.8	19.5
Progressive Corp.	18	23.8	23.8
Ralston Purina (RACM.CM)	32	N/A	N/A
Ralston Purina (RAL)	32	0.4	Decline
Rollins Inc.	20	Decline	Decline
SEI Investments	26	15.1	13.9
Savannah Foods & Industries	23	Decline	Decline
Safety-Kleen Corp.	15	0.1	1.5
Shared Medical Systems Corp.	02	13.0	14.2
St. Jude Medical Inc.	34	Decline	1.9
Servicemaster Company	63	14.7	15.2
Syntex Corp.	28	N/A	N/A
Tandy Corp.	14	Decline	Decline
Tambrands Inc.	18	N/A	N/A
Tyson Foods Inc.	26	5.0	Decline
Unilever N V	45	15.6	3.6
UST Inc.	19	13.6	12.7
VF Corp.	02	22.1	15.9
Wd-40 Co.	01	4.4	4.4
Walmart Stores	32	15.8	12.2
Washington Post	14	8.8	5.0
Affiliated Publications	04	N/A	N/A

SCHEDULE III – DATA

Company	12/80 ROE (%)	12/90 ROE (%)	1997 ROE (%)	12/80 EPS	12/90 EPS	12/97 EPS	1980 Intrinsic Value (10x EBIT) per Share	1990 Intrinsic Value (10x EBIT) per Share	1997 Intrinsic Value (10x EBIT) per Share
Brunos Inc.	31	19	(36)	0.09	(0.59)	(1.97)	1.76	9.73	3.87
Apple Computer	131	32	(50)	0.12	3.77	(8.29)	2.36	72.22	(28.89)
Abbott Laboratories	24	36	43	0.11	0.55	1.34	1.51	7.76	17.04
Associated Comm Corp.–Cl. A	(10)	59	N/A	0.04	0.29	N/A	(.15)	(1.53)	N/A
American Home Products Corp	34	62	29	0.36	0.98	1.55	N/A	12.86	21.85
Avon Products Inc.	24	70	140	1.00	0.65	1.27	19.40	18.65	20.29
Bandag Inc.	21	37	30	0.56	2.75	5.33	10.95	43.35	50.11
Blair Corp.	22	34	06	0.60	4.13	1.45	10.54	65.16	19.94
Circuit City Stores (CC	19	28	13	0.04	0.85	1.38	0.88	14.88	21.86
CCH Inc. – Cl. A	66	19	N/A	0.64	0.15	N/A	11.33	17.37	N/A
Circuit City Stores (CCKM.CM)	19	28	10	0.04	0.85	1.13	—	—	—
Chris-Craft Industries Inc.	08	30	06	0.21	6.84	2.19	0.76	33.89	75.36
Countrywide Credit Industries	50	11	19	0.12	0.30	2.42	4.13	13.07	22.54
Comdisco Inc.	34	16	16	0.05	0.44	0.78	0.74	6.34	(0.04)
Charming Shoppes	34	16	(02)	0.09	0.36	(0.07)	1.71	5.30	(0.77)
Continuum Inc.	63	34	N/A	0.16	0.64	N/A	3.34	11.36	N/A
Cray Research	24	19	N/A	0.43	4.02	N/A	7.83	59.03	N/A
Dow Jones & Co.	32	08	(49)	0.63	1.06	(8.36)	11.01	16.83	24.65
Deluxe Corp.	29	27	06	49	2.03	0.55	8.95	33.86	39.61
Dun & Bradstreet	31	24	(50)	0.91	2.79	1.27	18.25	43.71	N/A
Dreyfus Corp.	74	09	N/A	0.38	1.55	N/A	9.14	26.80	N/A
Ennis Business	25	40	17	0.19	1.05	0.82	3.64	16.97	13.38
Electronic Data Systems	25	28	15	0.06	1.04	1.48	0.83	15.60	29.61
EG&G Inc.	30	22	08	0.46	1.30	0.67	8.70	18.08	16.56
Food Lion Inc.	32	32	14	0.03	0.36	0.36	0.54	5.78	6.09
Freeport McMoran Inc.	26	145	N/A	7.80	13.14	N/A	60.90	65.88	N/A
Gillette Company	17	436	31	0.12	0.39	1.25	2.50	7.44	18.58
Geico Corp.	32	23	N/A	0.52	2.73	N/A	8.53	30.43	N/A
Galen Health Care Inc.	39	23	N/A	0.42	2.05	N/A	9.58	30.29	N/A
General Mills Inc.	19	50	146	0.84	2.28	2.82	16.04	34.62	42.08
Holly Corp.	11	7250	14	0.18	2.90	1.59	2.68	46.85	25.29
Block H & R Inc.	27	27	04	36	1.16	0.45	6.09	16.55	10.12
Intl Game Technology	158	25	23	0.07	0.17	1.12	0.89	2.51	16.84
Intl Dairy Queen	31	36	N/A	0.09	0.97	N/A	1.79	15.06	N/A
Intergraph Corp.	50	10	(16)	0.13	1.28	(1.46)	2.03	21.25	(12.38)
Ideon Group Inc.	39	25	N/A	0.10	0.93	N/A	1.87	13.00	N/A
Harland (John H.) Co.	27	21	09	0.34	1.52	0.56	6.13	23.54	9.28

SCHEDULE III – DATA (continued)

Company	12/80 ROE (%)	12/90 ROE (%)	1997 ROE (%)	12/80 EPS	12/90 EPS	12/97 EPS	1980 Intrinsic Value (10x EBIT) per Share	1990 Intrinsic Value (10x EBIT) per Share	1997 Intrinsic Value (10x EBIT) per Share
Kellogg Co.	28	31	44	0.30	1.04	1.36	5.47	17.16	24.62
Kelly Services	27	25	16	0.39	1.89	2.12	8.33	35.93	37.91
Coca-Cola Company	22	43	66	0.14	0.51	1.64	2.59	7.07	19.66
Lockheed Martin Corp.	35	16	N/A	0.31	3.25	N/A	4.98	19.36	40.31
Limited Inc.	20	36	17	N/A	0.96	1.54	0.16	16.20	21.37
Mac Frugals Barg	40	16	18	0.23	0.87	1.67	4.88	15.05	28.35
Marion Merrell Dow Inc.	12	45	N/A	0.06	1.72	N/A	1.02	25.41	N/A
Martin Marietta	18	24	N/A	1.12	3.26	N/A	13.29	41.12	N/A
Marsh & McLennan	22	34	18	0.52	1.38	1.59	6.37	23.54	36.73
Philip Morris Company Inc.	24	37	44	0.19	1.28	2.58	2.99	21.90	49.58
Merck & Co.	22	51	38	0.31	1.50	3.74	4.89	23.08	47.52
Maxam Inc.	28	56	(121)	0.74	15.19	7.14	6.44	315.50	121.83
Mylan Laboratories	12	25	10	0.01	0.24	0.52	0.26	2.07	N/A
New England Business Service	32	20	25	0.35	1.23	1.37	6.31	21.00	22.88
Neutrogena Corp.	24	22	N/A	0.07	0.65	N/A	1.24	11.13	N/A
Nike Inc. – Cl. B	85	43	32	0.05	0.80	2.68	1.07	13.08	45.61
Progressive Corp.	30	21	23	0.26	1.19	5.31	3.90	N/A	—
Ralston Purina (RACM.CM)	16	45	N/A	0.73	3.03	N/A	13.60	58.25	N/A
Ralston Purina (RAL)	16	45	46	0.24	1.01	1.04	4.53	19.42	12.90
Rollins Inc.	22	38	(56)	0.87	0.77	(3.09)	14.47	12.99	(12.24)
SEI Investments	105	29	46	0.10	0.53	1.40	2.51	9.91	24.60
Savannah Foods & Industries	67	29	18	0.68	1.80	1.22	12.97	26.74	26.35
Safety-Kleen Corp.	31	21	13	0.18	1.06	1.07	3.49	15.26	16.91
Shared Medical Systems Corp.	32	14	20	0.55	1.01	2.37	10.87	15.29	38.78
St. Jude Medical Inc.	33	34	06	0.02	0.90	0.59	0.76	13.29	15.44
Servicemaster Company	38	215	22	0.06	0.34	0.55	1.10	3.04	8.44
Syntex Corp.	23	57	N/A	0.27	1.51	N/A	3.17	17.81	N/A
Tandy Corp.	51	17	15	0.56	1.77	1.63	11.59	29.14	28.11
Tambrands Inc.	27	36	N/A	0.81	2.30	N/A	13.86	38.09	N/A
Tyson Foods Inc.	05	26	12	0.01	0.60	0.85	(0.15)	11.05	10.93
Unilever N V	17	64	73	0.48	2.23	6.16	11.14	36.25	42.02
UST Inc.	28	44	154	0.17	0.97	2.37	3.43	16.61	38.29
VF Corp.	24	09	17	0.32	0.67	2.70	5.70	16.52	46.31
Wd-40 Co.	64	41	45	0.37	1.03	1.38	7.20	16.83	22.81
Walmart Stores	32	36	21	0.02	0.48	1.33	0.32	6.73	15.02
Washington Post	17	19	22	2.44	14.45	26.15	44.29	—	349.52
Affiliated Publications	20	12	N/A	0.18	0.35	N/A	3.80	—	—

SCHEDULE IV

Analyst's Best Guess of Future Growth

Company	1980–1990 Stability of Margins (%)	% Change in 1990 vs. 1989				Analyst's Best Guess 1990–1997 Growth Rate for Intrinsic Value and EPS (%)	Actual Growth Rates 1990–1997	
		Sales (%)	Inventory (%)	Net Property, Plant and Equipment (%)	Accounts Payable (%)		Intrinsic Value (10x EBIT Value) (%)	EPS (%)
Brunos Inc.	Stable	12	12	10	(2)	12	Decline	Decline
Apple Computer	Volatile	5	(25)	19	2	5–10	Decline	Decline
Abbott Laboratories	Stable	14	12	14	13	12–15	11.9	13.7
American Home Products Corp	Stable	1	(10)	(3)	(3)	5	7.9	6.8
Avon Products Inc.	Stable	5	(17)	(3)	17	5	1.2	10.0
Bandag Inc.	Stable	12	1	15	3	12–15	2.1	9.9
Blair Corp.	Stable	11	(2)	64	2	11–15	Decline	Decline
Circuit City Stores	Declining trend	13	17	42	17	13–15	5.6	7.1
Chris-Craft Industries Inc.	Not Stable, declining trend	11	—	7	103	10	12.1	Decline
Countrywide Credit Industries	Stable	16	37	(1)	28	16	34	34
Comdisco Inc.	Stable	15	8	21	107	15	8.4	8.4
Charming Shoppes	Declining trend	10	12	17	12	10	Decline	Decline
Dow Jones & Co.	Declining trend	2	(48)	(5)	(16)	5	5.6	Decline
Deluxe Corp.	Stable	7	29	3	15	7–10	2.3	Decline
Dun & Bradstreet	Stable	11	(34)	5	75	11	N/A	Decline
Ennis Business	Stable	(2)	(18)	(1)	10	0–5	Decline	Decline
Electronic Data Systems	Stable	12	63	11	27	12	9.6	5.1
EG&G Inc.	Declining trend	49	(3)	(3)	19	10	Decline	Decline
Food Lion Inc.	Stable	18	16	30	22	20	.7	No change
Freeport McMoran Inc.	—	—	—	—	—	—	—	—
Gillette Company	Stable	14	10	16	14	14	14	17.9
General Mills Inc.	Stable	11	25	16	12	11	2.8	3.1
Block H & R Inc.	Stable	13	N/A	12	25	13	Decline	Decline
Intl Game Technology	Volatile	39	6	35	10	10	31.2	30.8
Intergraph Corp.	Declining trend	22	(6)	21	17	10	Decline	Decline
Harland (John H.) Co.	Stable	8	10	8	21	8	Decline	Decline
Kellogg Co.	Stable	11	(9)	8	(2)	11	5.3	3.9
Kelly Services	Stable	7	N/A	11	6	7	.8	1.6
Coca-Cola Company	Stable	14	24	18	14	14–16	15.7	18.2
Lockheed Martin Corp.	—	—	—	—	—	—	—	—
Limited Inc.	Stable	13	21	19	14	14	4.0	6.9

SCHEDULE IV (continued)

Company	1980–1990 Stability of Margins (%)	% Change in 1990 vs. 1989				Analyst's Best Guess 1990–1997 Growth Rate for Intrinsic Value and EPS (%)	Actual Growth Rates 1990–1997	
		Sales (%)	Inventory (%)	Net Property, Plant and Equipment (%)	Accounts Payable (%)		Intrinsic Value (10x EBIT Value) (%)	EPS (%)
Mac Frugals Barg	Declining trend	11	(7)	18	(58)	11	9.5	9.8
Marsh & McLennan	Stable	12	N/A	12	22	12	6.6	2.0
Philip Morris Company Inc.	Stable	13	24	13	28	13	12.4	10.6
Merck & Co.	Stable	17	14	19	21	17	10.9	13.9
Maxam Inc.	Volatile	(2)	2	2	18	2	Decline	Decline
Mylan Laboratories	Declining trend	(5)	26	8	(33)	4	15	11.7
New England Business Service	Declining trend	3	3	3	15	3	1.2	1.5
Nike Inc. – Cl. B	Volatile, increasing trend	34	89	83	55	18	19.5	18.8
Progressive Corp.	Volatile	(1)	N/A	23	N/A	2	23.8	23.8
Ralston Purina	Stable	7	3	15	16	7	Decline	—
Rollins Inc.	Stable	9	12	4	24	9	Decline	Decline
SEI Investments	Volatile	15	(4)	(16)	2	15	13.9	15.1
Savannah Foods & Industries	Volatile	11	1	16	(18)	11	Decline	Decline
Safety-Kleen Corp.	Stable	23	7	36	37	23	1.5	0.1
Shared Medical Systems	Declining trend	4	N/A	1	32	4	14.2	13.0
St. Jude Medical Inc.	Stable	18	31	43	166	18–25	1.9	Decline
Servicemaster Company	Stable	14	21	56	16	15–20	15.2	14.7*
Tandy Corp.	Declining trend	8	13	9	31	8	Decline	Decline
Tyson Foods Inc.	Stable	50	15	5	(4)	15	Decline	5.0
Unilever N V	Stable	22	12	20	22	22	3.6	15.6
UST Inc.	Stable	12	1	7	(9)	12	12.7	13.6
VF Corp.	Declining trend	3	(14)	5	(1)	3	15.9	22.1
Wd-40 Co.	Stable	8	18	(2)	59	8	4.4	4.4
Walmart Stores	Stable	26	31	37	45	26	12.2	15.8
Washington Post	Stable	(1)	34	6	2	2	5.0	8.8

*Servicemaster's 1990–1997 e.p.s. growth rate assumes that E.P.S. in 1990 was after the deduction of corporate income taxes at a 40% rate. In 1990, Servicemaster's reported e.p.s., \$0.34, was after the deduction of zero income tax because the company operated then as a limited partnership. Adjusted 1990 e.p.s., \$0.21, was used to calculate the 1990–1997 e.p.s. growth rate.

10-YEAR COMPARATIVE INCOME STATEMENT

WAL-MART STORES

Ticker: WMT

Last Fiscal: July 1999

Common Shares Outstanding: 4,448,730
Common Shares Reserved for Conversion Total: 33,456
Common Shares to Calculate Fully Diluted EPS: 4,548,396

Income Statement Item	Current Year	Year-1	Year-2	Year-3	Year-4	Year-5	Year-6	Year-7	Year-8	Year-9
Sales Net	32,601.594	25,810.656	20,649.002	15,959.255	11,909.050	8,451.457	6,400.848	4,666.895	3,376.250	2,444.997
%	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000
Cost of Goods Sold	25,160.607	19,800.629	15,843.227	12,115.782	8,930.330	6,272.133	4,718.719	3,368.616	2,421.512	1,761.218
%	77.176	76.715	76.726	75.917	74.988	74.214	73.720	72.151	71.722	72.034
Gross Profit	7,440.985	6,010.027	4,805.775	3,843.473	2,978.720	2,179.324	1,682.129	1,298.279	954.738	683.779
%	22.824	23.285	23.274	24.083	25.012	25.786	26.280	27.819	28.278	27.966
Selling General and Administrative Expense	5,152.178	4,069.695	3,267.864	2,599.367	2,007.645	1,485.210	1,118.828	892.837	677.029	495.010
%	15.803	15.767	15.826	16.288	16.858	17.573	17.479	19.132	20.053	20.246
Operating Income before Depreciation	2,288.609	1,940.333	1,537.910	1,244.106	971.075	694.114	563.301	405.392	277.709	188.769
%	7.021	7.518	7.448	7.796	8.154	8.213	8.800	8.687	8.225	7.721
Depreciation and Amortization Expense	339.277	269.406	213.529	165.962	122.863	89.106	66.333	49.406	36.721	26.277
%	1.041	1.044	1.035	1.040	1.032	1.054	1.036	1.059	1.088	1.075
Amortization of Intangibles	@NA	3.543	5.998	3.000	0.000	0.000	0.000	0.000	0.000	0.000
%	@NA	0.014	0.029	0.019	0.000	0.000	0.000	0.000	0.000	0.000
Operating Income after Depreciation	1,949.582	1,670.927	1,324.281	1,078.144	848.212	605.008	496.968	355.986	240.988	162.492
%	5.980	6.474	6.413	6.756	7.122	7.159	7.764	7.628	7.138	6.646
Interest Expense	194.324	154.759	144.482	119.168	90.273	60.894	48.683	35.416	40.510	32.330
%	0.596	0.600	0.700	0.747	0.758	0.721	0.761	0.759	1.200	1.322
Nonoperating Income excluding Interest Income	287.502	191.332	145.668	109.694	88.087	59.478	53.137	36.566	24.078	18.576
%	0.882	0.741	0.705	0.687	0.740	0.704	0.830	0.784	0.713	0.760
Interest Income	@CF	@CF	@CF	@CF	@CF	@CF	@CF	@CF	@CF	@CF
%	@CF	@CF	@CF	@CF	@CF	@CF	@CF	@CF	@CF	@CF
Special Items	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Pretax Income	2,042.760	1,707.500	1,325.467	1,068.670	846.026	603.592	501.420	357.147	224.556	148.737
%	6.266	6.615	6.419	6.696	7.104	7.142	7.834	7.653	6.651	6.083
Total Income Taxes	751.736	631.600	488.246	441.027	395.940	276.119	230.653	160.903	100.416	65.943
%	2.306	2.447	2.365	2.763	3.325	3.267	3.603	3.448	2.947	2.697
Minority Interest	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Income Before Extraordinary Items	1,291.024	1,075.900	637.221	627.643	450.086	327.473	270.767	196.244	124.140	82.794
%	3.960	4.168	4.055	3.933	3.779	3.875	4.230	4.205	3.677	3.386
Extraordinary Items and Discontinued Operations	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Preferred Dividends	0.000	0.000	0.000	0.000	0.266	0.466	0.558	0.612	0.637	0.347
%	0.000	0.000	0.000	0.000	0.002	0.006	0.009	0.013	0.019	0.014
Income Before Extraordinary Items Available for Common	1,291.024	1,075.900	637.221	627.643	449.820	327.007	270.209	195.632	123.503	82.447
%	3.960	4.168	4.055	3.933	3.777	3.869	4.221	4.192	3.658	3.372
Net Income (Loss)	1,291.024	1,075.900	637.221	627.643	450.086	327.473	270.767	196.244	124.140	82.794
%	3.960	4.168	4.055	3.933	3.779	3.875	4.230	4.205	3.677	3.386
Fully Diluted EPS excluding Extraordinary Items	0.285	0.237	0.185	0.139	0.099	0.072	0.060	0.044	0.028	0.020
Total Common Equity	5,365.524	3,965.561	3,007.909	2,257.267	1,690.493	1,277.659	984.672	737.503	488.109	323.942
%	16.458	15.364	14.567	14.144	14.195	15.118	15.383	15.803	14.457	13.249
Return on Equity	0.326	0.358	0.371	0.371	0.352	0.333	0.367	0.402	0.383	0.333

YEAR-TO-YEAR PERCENT CHANGE

WAL-MART STORES

Ticker: *WMT*

SIC: *5331*

	January 1987 (\$ Millions)	January 1988 (%)	January 1989 (%)	January 1990 (%)	January 1991 (%)
ASSETS					
Cash & Equivalents	165.545	(93.16)	10.84	1.89	1.75
Net Receivables	137.540	62.02	8.26	(2.80)	132.34
Inventories	2,030.972	30.57	26.38	32.13	31.17
Prepaid Expenses	19.214	0.01	34.15	44.38	30.08
Other Current Assets	0.000	@NC	@NC	@NC	@NC
Total Current Assets	2,353.271	23.45	24.98	29.79	36.12
Gross Property, Plant & Equipment	2,070.132	29.69	26.32	29.79	36.23
Accumulated Depreciation	393.850	37.09	35.11	33.21	32.20
Net Property, Plant & Equipment	1,678.282	27.95	24.11	28.85	37.37
Investments at Equity	0.000	@NC	@NC	@NC	@NC
Other Investments	0.000	@NC	@NC	@NC	@NC
Intangibles	0.000	@NC	(12.75)	(8.63)	(100.60)
Deferred Charges	@CF	@CF	@CF	@CF	@CF
Other Assets	19.539	77.99	(26.13)	(28.71)	1,330.99
Total Assets	4,049.092	26.71	23.93	28.91	38.91
LIABILITIES					
Long-Term Debt Due in One Year	13.549	36.87	15.13	11.65	29.21
Notes Payable	0.000	@NC	(81.80)	872.49	113.87
Accounts Payable	924.654	18.96	26.34	31.44	45.14
Taxes Payable	132.833	(9.08)	0.32	47.78	3.05
Accrued Expenses	269.255	48.60	28.63	22.58	15.48
Other Current Liabilities	0.000	@NC	@NC	@NC	@NC
Total Current Liabilities	1,340.201	30.10	18.47	37.73	40.25
Long-Term Debt	943.362	11.58	13.38	6.63	49.22
Deferred Taxes	74.048	4.28	18.21	24.56	16.56
Investment Tax Credit	0.000	@NC	@NC	@NC	@NC
Minority Interest	0.000	@NC	@NC	@NC	@NC
Other Liabilities	0.000	@NC	@NC	@NC	@NC
Total Liabilities	2,358.509	21.87	16.60	26.29	42.30
EQUITY					
Preferred Stock – Redeemable	0.000	@NC	@NC	@NC	@NC
Preferred Stock – Nonredeemable	0.000	@NC	@NC	@NC	@NC
Total Preferred Stock	0.000	@NC	@NC	@NC	@NC
Common Stock	28.218	100.27	0.08	0.10	101.77
Capital Surplus	191.657	(11.15)	2.25	3.55	130.29
Retained Earnings	1,470.418	38.08	36.78	34.26	29.70
Less: Treasury Stock	0.000	@NC	@NC	@NC	@NC
Common Equity	1,690.493	33.53	33.25	31.84	35.30
TOTAL EQUITY	1,690.493	33.53	33.25	31.84	35.30
TOTAL LIABILITIES & EQUITY	4,049.092	26.74	23.93	28.91	38.91
COMMON SHARES OUTSTANDING	4,514.912	0.13	0.08	0.10	0.88

YEAR-TO-YEAR PERCENT CHANGE (continued)**WAL-MART STORES****Ticker: WMT****SIC: 5331**

	January 1987 (\$ Millions)	January 1988 (%)	January 1989 (%)	January 1990 (%)	January 1991 (%)
Sales	11,909.050	34.01	29.39	25.00	26.31
Cost of Goods Sold	8,930.330	35.67	30.77	24.98	27.07
Gross Profit	2,978.720	29.03	25.04	25.06	23.81
Selling, General and Administrative Expense	2,007.645	29.47	25.72	24.54	26.60
Operating Income Before Depreciation	071.075	28.12	23.62	26.17	17.96
Depreciation, Depletion and Amortization	122.863	35.08	28.72	24.54	25.92
Operating Profit	848.212	27.11	22.83	26.18	16.68
Interest Expense	90.273	32.01	21.24	7.11	25.57
Non-Operating Income/Expense	88.087	24.53	32.79	31.35	50.26
Special Items	0.000	@NC	@NC	@NC	@NC
Pretax Income	846.026	26.32	24.03	28.82	19.63
Total Income Taxes	395.940	11.39	10.71	29.36	19.02
Minority Interest	0.000	@NC	@NC	@NC	@NC
Income Before Extraordinary Items and Discontinued Operations	450.086	39.45	33.39	28.51	19.99
Preferred Dividends	0.266	(100.00)	@NC	@NC	@NC
Available for Common	449.820	39.53	33.39	28.51	19.99
Savings Due to Common Stock Equivalents	0.266	(100.00)	@NC	@NC	@NC
Adjusted Available for Common	450.086	39.45	33.39	28.51	19.99
Extraordinary Items	0.000	@NC	@NC	@NC	@NC
Discontinued Operations	0.000	@NC	@NC	@NC	@NC
Adjusted Net Income	450.086	39.45	33.39	28.51	19.99
Earnings Per Share Basic – excluding Extraordinary Items and Discontinued Operations	0.10	39.62	33.33	28.38	20.00
Earnings Per Share Basic – including Extraordinary Items and Discontinued Operations	0.10	39.62	33.33	28.38	20.00
Earnings Per Share Diluted – excluding Extraordinary Items and Discontinued Operations	0.10	39.62	33.33	28.38	20.00
Earnings Per Share Diluted – including Extraordinary Items and Discontinued Operations	0.10	39.62	33.33	28.38	20.00
Earnings Per Share Basic from Operations	@NA	@NA	@NA	28.38	20.00
Dividends Per Share	0.01	41.18	33.33	37.50	27.27

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